

## Environmental Protection Agency 2019 Targeted Airshed Grant Program Wood Burning Appliance Change-Out Program

### Emissions Inventories

The California Air Resources Board (CARB) distributes the emission inventory for residential wood burning into two categories of appliances: 1) Fireplaces and 2) Wood Stoves. However, the wood burning appliances in the Valley consist of three categories: 1) Fireplaces, 2) Pellet-Fueled Wood Burning Heaters, and 3) Wood Burning Heaters. The CARB emission inventory for “Wood Stoves” includes emissions from both types of heaters (pellet-fueled wood burning heaters and wood burning heaters).

The latest emissions inventory for residential wood burning can be found in CARB’s inventory (CEPAM version 1.05). This inventory provides emissions for residential wood burning from fireplaces and wood stoves and also provides annual and winter season daily averages.

County	Wood Stove PM <sub>2.5</sub> (tpd)	Fireplace PM <sub>2.5</sub> (tpd)	Total
Fresno	0.72	0.59	1.32
Kern	0.39	0.42	0.81
Kings	0.06	0.08	0.14
Madera	0.13	0.08	0.21
Merced	0.34	0.20	0.53
San Joaquin	0.40	0.58	0.98
Stanislaus	0.42	0.45	0.87
Tulare	0.36	0.26	0.62
<b>San Joaquin Valley Total</b>	<b>2.81</b>	<b>2.68</b>	<b>5.49</b>

Residential wood burning is a significant contributor to Valley PM<sub>2.5</sub> emissions during the winter season. Based on data from the Metropolitan Planning Organizations, the U.S. Census, and survey results, the District estimates that there are over 240,000 residences that burn in the Valley contributing 13% of total winter-time PM<sub>2.5</sub> emissions. However, during peak winter days, organic carbon contributes up to 33% of the composition of PM<sub>2.5</sub> emissions in the Valley, the vast majority of which is from residential wood burning.

On November 15, 2018, the District’s *2018 Plan for the 1997, 2006, and 2012 PM<sub>2.5</sub> Standards* was adopted which lays out a host of strategies aimed at demonstrating attainment of the federal PM<sub>2.5</sub> standards as expeditiously as practicable. One of the measures contained in the plan is District Rule 4901. This rule has been essential to limiting directly emitted wintertime PM<sub>2.5</sub> emissions in the Valley. The District’s Program in conjunction with Rule 4901 has shown an overall improvement in PM<sub>2.5</sub> concentrations and air quality during the winter season, with an overall increase in the number of Good and Moderate air quality days, and an overall decrease in the number of Unhealthy for Sensitive Groups days.

This project will further support the strategies to continue to reduce PM emissions towards attaining federal standards and improve public health by reducing toxic wood smoke emissions in Valley neighborhoods, especially during the peak PM<sub>2.5</sub> winter season (November through February).